

## **REMARKS**

### **Present Status of the Application**

The Office Action mailed March 9, 2004 rejected all presently pending claims 1, 3, 5 and 7. Specifically, claim 1 was rejected under 35 U.S.C. 112, second paragraph. Claims 1, 3, 5 and 7 were rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Daimon et al. (US 4,752,526) or Yasukawa et al. (US 5,145,891). In response thereto, Applicant has amended independent claim 1. Reconsideration of claims 1, 3, 5 and 7 is respectfully requested.

### **Summary of the Invention**

This invention is directed to an organic fiber filler-containing polypropylene resin composition. The polypropylene resin composition essentially contains an olefin polymer composition (A) that comprises a mixture of (a) 0.01 to 5.0 parts by weight of ethylene-based polymer which has an intrinsic viscosity of 15 to 100 dl/g and (b) 100 parts by weight of propylene-based polymer which has an intrinsic viscosity of 0.2 to 10 dl/g. The polypropylene resin composition satisfies Equation (1) ( $\log MT > 4.24 \times \log [\eta] - 1.2$ ) as mentioned in claim 1.

### **Rejections under 35 U.S.C. 112**

Please refer to *original claim 2* that has been canceled and incorporated into independent claim 1 previously, the main component (b) in the essential olefin polymer composition (A) is actually "*100 parts by weight of polypropylene which .....*", but *not polyethylene*.

Accordingly, the typing error in the descriptions about the component (b) in previously amended independent claim 1 has been corrected by replacing the word "polyethylene" with "polypropylene". It is believed that such an amendment can clarify the scope of claim 1.

#### **Discussion of Rejections under 35 U.S.C. 102(b)**

Claims 1, 3, 5 and 7 were rejected under 35 U.S.C. 102(b) as being anticipated by Daimon et al. or Yasukawa et al.

The Final Office Action mentions, in page 2, that the Applicant only argues how the mixture of (A) and (B) overcomes the prior art rejection in last Response against the First Office Action, but does not argue how the olefin polymer composition (A) overcomes the prior art rejection.

However, please refer to the Remark Section of last Response again. *Contrary to the above assertion*, the Applicant has actually argued how the olefin polymer composition (A) overcomes the prior art rejection, but has not argued how the mixture of (A) and (B) overcomes the prior art rejection. The reason is that *the olefin polymer composition (A) itself can overcome the prior art rejection*, and the related arguments are repeated as follows.

The olefin polymer composition (A) in this invention comprises a mixture of (a) 0.01 to 5.0 parts by weight of ethylene-based polymer which has an intrinsic viscosity of 15 to 100 dl/g, and (b) 100 parts by weight of propylene-based polymer which has an intrinsic viscosity of 0.2 to 10 dl/g. The feature is recited in independent claim 1. *Please also note that (a) and (b) are different from (A) and (B), respectively.*

Daimon fails to teach or suggest the above feature. Daimon does use modified crystalline

polypropylene as a raw material, but does not disclose a polymer composition comprising a *mixture of an ethylene-based polymer and a propylene-based polymer* having specific proportions and different intrinsic viscosities as specified in claim 1. As described in col. 2, lines 35-38 of Daimon, the polypropylene resin used in Daimon is a *crystalline polypropylene modified with an unsaturated carboxylic acid or its derivative*. Obviously, the *modified crystalline polypropylene* used in Daimon is different from the olefin polymer composition (A) that comprises a *mixture of the ethylene-based polymer (a) and the propylene-based polymer (b)* with specific proportions and different intrinsic viscosities.

Yasukawa also fails to teach or suggest the above feature. As described in col. 2, lines 24-67 of Yasukawa, the polypropylene resin used in Yasukawa is a *propylene-ethylene block copolymer*, which is surely different from the olefin polymer composition (A) that comprises a *mixture of the ethylene-based polymer (a) and the propylene-based polymer (b)* having specific proportions and different intrinsic viscosities as specified in claim 1.

The aforementioned are main parts of the arguments in last Response. It is also noted that “*the propylene homopolymer of 70-95% by weight*” and “*the propylene-ethylene copolymer of 30-5% by weight*” mentioned in col. 2, lines 28-38 of Yasukawa are different segments in the propylene-ethylene block copolymer, and *are linked to each other via covalent bonds*.

Generally, the properties of a *copolymer* are quite different from those of a *polymer mixture* containing two different polymers, even though their constituting monomer units are similar. However, even if the propylene-ethylene block copolymer of Yasukawa were interpreted as a mixture and the propylene homopolymer and propylene-ethylene copolymer as two components in the mixture, the scope of Yasukawa would have not covered this invention. As

shown in claim 1, when the olefin polymer composition (A) is used without the polypropylene base resin (B) and the component (b) in (A) is 100 parts by weight of polypropylene which comprises a propylene homopolymer, the percentage of the propylene homopolymer (b) in the composition (A) is always higher than 95.2 ( $\text{amount}_{(b)} / (\text{upper limit of amount}_{(a)} + \text{amount}_{(b)}) = 100 / (5 + 100) = 95.2$ ). However, in Yasukawa, the range of the percentage of the propylene homopolymer is 70-95%, which does not cover the above range ( $\geq 95.2$ ) in this invention.

Accordingly, contrary to the assertion in Page 4 of the Final Office Action, this invention is not based on the substantially identical compositions of Daimon or Yasukawa, so there is no reasonable basis to believe that the properties claimed in this invention is inherent in the organic fiber filler-containing polypropylene resin disclosed by Daimon and Yasukawa.

#### **Discussion of Office Action Rejections under 35 U.S.C. 103(a)**

As mentioned above, both the modified crystalline polypropylene used in Daimon and the propylene-ethylene block copolymer used in Yasukawa are obviously different from the olefin polymer composition (A) that comprises a mixture of an ethylene-based polymer (a) and a propylene-based polymer (b) having specific proportions and different intrinsic viscosities as specified in claim 1.

Moreover, the effect of the olefin polymer composition (A) is not foreseeable based on the disclosures of Daimon and Yasukawa. As indicated by the results of Examples 1 and 2 (Table 1, page 17) of this invention, when the organic fiber filler-containing polypropylene resin composition contains both the olefin polymer composition (A) and the polypropylene base resin (B), the tearing-off problem does not occur in extrusion. However, as indicated by the result of

Comparative Example 1 (Table 1, page 17) in the specification, when the polypropylene base resin (B) is used only without the olefin polymer composition (A), the tearing-off problem is present in extrusion.

The tearing-off preventing effect of the olefin polymer composition (A) is attributed to inclusion of the components (a) and (b) with specific difference in the range of intrinsic viscosity. The feature is completely not suggested or hinted in Daimon and Yasukawa because they do not mention any difference of intrinsic viscosity in different components. Therefore, one skilled in the art is not motivated to provide the olefin polymer composition (A) that has the components (a) and (b) each having a specific proportion and a specific range of intrinsic viscosity.

For at least the reasons mentioned above, Applicant respectfully submits that amended independent claim 1 patently defines over the prior art.

For at least the same reasons mentioned above, Applicant respectfully submits that claims 3, 5 and 7 dependent from independent claim 1 also patently define over the prior art.

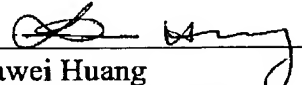
### CONCLUSION

For at least the forgoing reasons, it is believed that pending claims 1, 3, 5 and 7 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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